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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/088,165 | 03/15/2002 | Hiroshi Ohta | 2589-15 | 2902 |

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EXAMINER

COLE, LAURA C

ART UNIT PAPER NUMBER

1744

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/088,165 | OHTA ET AL | |
| | Examiner | Art Unit | |
| | Laura C Cole | 1744 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,9,10 and 13 is/are allowed.
- 6) ☒ Claim(s) 3-8,11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

1. Claims 3-6 and 11 are rejected under 35 U.S.C. 102(e) as being anticipated by Song et al., USPN 6,195,835.

Song et al. disclose the claimed invention including a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (all of these elements described in Figure 2 and in Column 6 Lines 20-44), and a cyclone dust collector (10) that comprises an inlet port (11), a lid (22), an exhaust port (12), means for opening and closing the chamber (43), an exhaust cylinder (50) detachably fitted to the exhaust port (Column 8 Lines 49-56), and a shielding member (60, 70). The exhaust cylinder and shielding member are integrally detachable from the dust collection member (as shown in Figures 3, 6, 8, and 10). The exhaust cylinder is arranged above the shielding member and substantially on a center line of the dust collection chamber (see Figures 5, 7, 9, and 11). The shielding member has a circular portion having a substantially circular shape (see Figures) and arranged inside the dust chamber with a gap (see Figures) and a protruding portion (protruding portion may be the lip 60' of Figure 7 or the protruding bristles 70 of Figure 8). The shielding member has a plurality of shielding ribs being arranged radially on a bottom surface of the circular portion (the bristles of the brush serve as a plurality of shielding ribs, see Figure 8). The cyclone dust collector is integrally detachable from the suction passage (by connecting portions 3b and 12b).

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2. Claims 3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Douma et al., USPN 6,090,174.

Douma et al. disclose the claimed invention including a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (all of these elements described in Figure 1 and in Column 4 Lines 18-50), and a cyclone dust collector (11, 79) that comprises an inlet port (13), a lid (49), an exhaust port (15), an exhaust cylinder (19) detachably fitted to the exhaust port (see Figure 5, lid (49) is not integral with the portion (81)), and a shielding member (89, 93). The shielding member has a circular shape and arranged in the dust collection chamber with a gap secured from an inner wall (see Figure 5, there is a gap between the side inner wall and the member (93)) and a protruding portion formed to protrude downward from a periphery of the circular portion (the side (91) protrude downwards). The shielding member has a plurality of shielding ribs (89) arranged radially on a bottom surface of the circular portion (see Figure 5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 3-7 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al., USPN 6,195,835 in view of Guest, USPN 1,913,115.

Song et al. disclose all elements above, however does not include a shielding member including a plurality of ribs extending downwardly that are shaped like a flat plate.

Guest teaches a dust collector that comprises a cyclone dust collector which comprises a dust collecting chamber (6) having an inlet port (10) and an exhaust port (13) to discharge air from the chamber, and a shielding member (14) with which a stream of air inside the chamber is made to collide to separate the dust from the air (Page 1 Line 98 to Page 2 Line 36), the shielding member including a plurality of ribs (16) extending downwardly from an upper portion (11) so that the air collides with the ribs (see Figure 1). The ribs are shaped like a flat plate (see Figures) and radially extend from center to periphery (see Figures).

It would have been obvious for one of ordinary skill in the art to modify a shielding member such as "60" of Song et al. by further incorporating ribs that extend downwards from an upper portion, such as Guest teaches, in order to separate dust from a stream of air.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al., USPN 6,195,835 in view of Guest, USPN 1,913,115, and further in view of Conrad et al., USPN 6,228,151.

Song et al. and Guest disclose all elements above however do not disclose a projection rib between two adjacent shielding ribs.

Conrad et al. disclose a cyclone separator that includes a vacuum cleaner comprising a nozzle, an electric blower, a suction air passage (see Figure 4), and a dust collection chamber (30) having an inlet port (34), an exhaust port (40), and a shielding member (50). The shielding member (50) includes projection ribs protrude from the inner wall of the dust collection chamber toward a center (see Figures). Further, the shielding member (50) serves to "separate cyclonic air flow from a bottom" (Column 6 Lines 31-35; see also Column 4 Lines 53-64).

It would have been obvious for one of ordinary skill in the art to modify the inner wall of Song et al. and Guest and have employ the teaching of Conrad et al. by having ribs protrude from the inner wall towards the center of the dust collection chamber in order to further separate dust and debris from the air.

5. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Song et al., USPN 6,195,835 in view of Guest, USPN 1,913,115, and further in view of Buscher, USPN 5,907,886.

Song et al. and Guest disclose all elements above however does not include exhaust cylinder or dust collector detecting means that control the electric blower.

Buscher discloses a vacuum cleaner that has detecting means that determine the placement of vacuum cleaner filter bags and as a result controls the vacuum from switching on if the filter bag is not properly detected (see Abstract).

It would have been obvious for one of ordinary skill in the art to modify Song et al. and Guest by placing detection means, such as the ones that Buscher teaches, on the dust collector or exhaust cylinder in order to determine the correct placement of those devices, since both the filter of Buscher and cyclone device of Song et al. both are provided in an air stream to separate dust or pollutants from the air.

Allowable Subject Matter

6. Claims 1, 2, 9-10, and 13 are allowed.
7. The following is a statement of reasons for the indication of allowable subject matter:

None of the prior art made of record includes the combination of a nozzle, electric blower, suction air passage, cyclone dust collector comprising a dust collection chamber, a lid, *the lid comprising an exhaust port*, an exhaust cylinder detachably fitted to the exhaust port of *the lid*, a shielding member that closes off the bottom end of the exhaust cylinder so that air can enter through a port located in a *peripheral edge* of the cylinder, and wherein the shielding member is located in an area above the chamber, and the shielding member includes a plurality of elongated ribs.

Applicants Arguments

8. In the response filed 01 June 2004, the Applicant contends that:

The art fails to disclose or suggest the elements required by Claim 1. Each cited reference fails to disclose or suggest a shielding member which closes off the bottom end of the exhaust cylinder so that air entering the exhaust cylinder through a port located in a peripheral edge of the exhaust cylinder, wherein the shielding member includes a plurality of elongated ribs extending downwardly from a top portion thereof for separating dust from the air in the collection chamber.

Response to Arguments

9. Applicant's arguments, filed 01 June 2004, with respect to Claims 1, 2, 9-10, and 13 have been fully considered and are persuasive. The rejections under 35 U.S.C. 102 and 35 U.S.C. 103 of Claims 1, 2, 9-10, and 12 has been withdrawn.

It is also noted in the response of 01 June 2004 that there were no arguments presented pertaining to Claims 3-8 and 11-12.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 2,010,128 to Arnold and USPN 3,675,401 to Cordes both disclose a shielding member fitted to an exhaust cylinder having a plurality of ribs.

USPN 6,679,930 to An et al. and USPN 6,607,575 to Oh et al. both disclose cyclone dust collectors, however the filing date of these Applications are filed after the priority date of the current application. However, it is noted that An et al. does disclose a shielding member having ribs and that air enters the exhaust cylinder located through a port located in a peripheral edge of the exhaust cylinder.

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11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Laura C Cole whose telephone number is (571) 272-1272. The examiner can normally be reached on Monday-Thursday, 7:30am - 5pm, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J Warden can be reached on (571) 272-1281. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LCC
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26 June 2004

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